

Attorney Docket No. 2003B061/2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**RECEIVED
CENTRAL FAX CENTER****NOV 15 2006**

<i>In re</i> Application of:	§	BEFORE THE EXAMINER:
Dickey <i>et al.</i>	§	Caixia Lu
Serial No.: 10/828,490	§	Group Art Unit No.: 1713
Filed: April 20, 2004	§	Attorney Docket No.: 2003B061/2
For: Polymerization Processes Using	§	Confirmation No.: 7102
Antistatic Agents	§	
Customer No.: 23455	§	November 14, 2006

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF RANDELL WAYNE DICKEY UNDER 37 CFR § 1.132

Dear Sir:

I, Randell Wayne Dickey, hereby declare that:

1. I am a citizen of the United States of America and a resident of the City of Baytown, Texas.
2. I was awarded a B.S. in Chemical Engineering from the Georgia Institute of Technology in 1974. Since 1974 I have been continuously employed by ExxonMobil Chemical Company and its predecessors in both Polypropylene Manufacturing and Technology. I have been a process engineer conducting research and development work concerning the polymerization of polypropylene since 1992.
3. I am one of the inventors of the subject matter described and claimed in United States Patent Application Serial Number 10/828,490 entitled *Polymerization Processes Using Antistatic Agents* ("Application").
4. I have read and am familiar with the subject matter described and claimed in United States Patent Number 6,833,338 to McDaniel, *et al.* and entitled *Organometal Compound Catalyst* ("McDaniel") and United States Patent Number 6,562,924 to Benazouzz, *et al.* and entitled *Process for the Gas-Phase (Co)-Polymerization of Olefins In A Fluidized Bed Reactor* ("Benazouzz").
5. I am aware that McDaniel and Benazouzz have been cited in an Official Action rejecting the Application. In particular, I am aware that it has been alleged in the

1 of 3

I:\Hpel\A\W\Prosecution\EMOC Prosecution\2003\2003B061\US2003B061-2\2003B061-2-US-20061106-132 A\Fidavi.doc

BEST AVAILABLE COPY

Attorney Docket No. 2003B061/2

Official Action that one of skill in the art would have combined McDaniel's polymerization process with Benazouzz's antistatic agent concentration to achieve a polymerization process such as described in the Application.

6. It is known in the art of ethylene polymer science to use antistatic agents in polymerization processes to prevent fouling or agglomeration of polymer. However, application of the use of ethylene polymerization antistatic agents to the polymerization of propylene is problematic because of the tendency of the antistatic agents to poison the propylene polymerization catalysts. Further, antistatic agents have historically been applied in relatively high concentrations when used in ethylene polymerizations. These concentrations would result in reductions of catalyst activity from 25 to almost 100% when used in propylene polymerization processes.
7. In attempting to solve the catalyst poisoning problem, I and my fellow inventors, unexpectedly found that by using ultra-low concentrations of antistatic agent that had been contacted with a scavenger before being contacted with either monomers or the polymerization catalyst system ("pre-contacted antistatic agent"), we could achieve a level of fouling reduction and catalyst activity not before possible. We were able to achieve catalyst activities exceeding 90% of "no antistatic agent" levels when using levels of pre-contacted antistatic agent of 0.3 to 1.5 ppmw relative to the amount of olefin monomers introduced into the reactor. During the course of our research, we obtained data that showed levels of antistatic agent of as little as 7.5 ppmw resulted in little to no catalyst activity at all.
8. I have examined McDaniel and Benazouzz and found nothing in either evidencing a recognition of the problem of using antistatic agents in propylene polymerization processes. Further, although Benazouzz may discuss use of antistatic agents in concentrations from 0.3 to 70 ppmw, its experimental data suggests use of concentrations of 50 ppmw or greater. Use of an antistatic agent at this concentration could be expected to result in little to no catalyst activity in a propylene polymerization system. Further, neither McDaniel nor Benazouzz teach the pre-contacting of antistatic agent with scavenger. It is my learned opinion that simply introducing McDaniel's catalyst component, cocatalyst, antistatic agent and monomers into a reactor system would not result in the pre-contacting effect that resulted from our invention. The lack of exclusive proximity of the antistatic agent and cocatalyst, combined with the presence of catalyst component and monomer, would likely result in more contact of the antistatic agent with catalyst (and thus poisoning of it).
9. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that such willful

2 of 3

I:\Bpe\LA\WP\Prosecution\EMOC Prosecution\2003\2003B061\US\21813B061-2\2003B061-2-US-20061106-132 A\fdavit.doc


BEST AVAILABLE COPY

Attorney Docket No. 2003B061/2

false statements may jeopardize the validity of the application of any patent issuing thereon.

November 14, 2006

Date



Randell Wayne Dickey

3 of 3

I:\PeLAW\Prosecution\MCC Prosecution\2003\2003B061\US\2003B061-2\2003B061-2-US-20061106-132 Attalavi.doc